UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

REPORT OF CONTROL OF MOUNTAIN PINE BEETLE
KOOTENAI NATIONAL FOREST

YEAR OF 1934

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REPORT ON CONTROL OF MOUNTAIN PINE BEETLE
KOOTENAI NATIONAL FOREST
SPRING OF 1934

Personnel and Organization:

The Kootenai 1934 spring Insect Control comprised three projects, all being in the nature of follow-up work on areas previously treated.

Organization and inspection were in charge of this reporting officer. All camp and field supervision was handled by temporary employees who had been tried and experienced through previous seasons of beetle control work. All labor was performed by local men hired through the local office of the National Re-employment Service. N.R.A. wages were paid throughout.

There was one 25-man, and two 15-man camps. The camp manager of each camp had complete authority and responsibility in regard to his particular camp. He had personal direction of both spotting and treating, made a daily field inspection and check of his work, kept the records, and did all things necessary to the maintaining of an orderly effective working unit.

One man, J. W. Farris was hired as auditor and clerk. He kept all property records; visited the camps at frequent intervals, and kept the camp managers' production and activity records current and up to standard; maintained in the office a composite and individual project cost and production record. He also handled commissary and arranged for prompt delivery of supplies and transportation.

Spotting was done according to the procedure followed on this Forest for some time; three-man crews, working along a four chain wide strip controlled by blazed lines previously surveyed. Along these blazed lines are stations posted at five-chain intervals. The chief spotter, by means of a box compass, keeps himself in the approximate center of the strip and is oriented by the spotter on his right who calls out the stations on the blazed line as he passes them. The chief spotter is thus able to make an accurate map and still have time and attention for spotting and supervision of his crew.

Treating was done largely by four-man crews, each crew in charge of a strawboss. By aid of the spotters' map and the blazed

lines, the treating crews were able to locate all spotted trees at a minimum of lost travel and scouting time. All treating was done by hand logging and burning except where the danger of spread of fire was great. The blazed lines are an indispensible aid in this connection because they make the checking and mopping up of fires easy and sure.

A Statement of the accomplishments and costs of the combined projects follows:

Period of work: April 20, 1934 to June 6, 1934.
Acres spotted : 5798 Acres treated: 5344
Number trees spotted: 920 Number trees treated: 920

1. Total Expenditure by Appropriations

a.	Insect control appropriation	$7612.26
b.	Less commissary credit	- 60.40
c.	Subtotal	$7556.86
d.	Less 10% deduction	- 15.87
e.	Total	$7540.99

2. Classified Expenditures

a.	Salaries	$ 00
b.	Wages, temporary labor	5703.04
c.	Travel and transportation	435.10
d.	Subsistence supplies	1223.79
e.	Other supplies and equipment	179.06
f.	Contributed times (salaries)	.00
g.	Total	7540.99

3. Activity Costs

		Total	Per tree
a.	Supervision	957.53	1.041
b.	Travel	6.10	.007
c.	Transportation	641.03	.697
d.	Equipment	199.04	.216
e.	Camps	663.72	.721
f.	Spotting	1490.53	1.620
g.	Treating	3583.04	3.895
h.	Total	7540.99	8.197
i.	Subsistence (Prorated to above.)	2018.74 per man day	1.4109

Instructions for Activity Costs

Subsistence is not given as a separate activity cost, but mess costs, including food supplies and cook house labor, but not transportation, are prorated against labor and salaries on the basis of number of days on each activity. Non-effective time of men paid by the month, such as Sundays, Saturday half-holidays, rainy days, etc. are not carried as a separate item, but the total monthly rate of the employee is charged against the activities in which he is engaged.

a. Supervision: Includes general overhead, warehouse man, camp manager not actually engaged in treating or spotting.
b. Travel: Travel expenses paid to and from the job, and from camp to camp.
c. Transportation: All expense of pack strings, including forage, shoeing, wages of packer, horse hire. All truck hire, including drivers. Freight and express.
d. Equipment: Includes any rental charge made by Central Purchase for equipment and includes any replacement equipment purchased locally.
e. Camps: Labor cost of setting up and breaking camp, bull cook and wood cost. No transportation included.
f. Spotting: Labor cost of spotting, including chief spotter.
g. Treating: Labor cost of treating, including crew foreman. Cost of mop-up and checking of fires.

4. Output

Spotting:	Number of trees per effective man day	5.38
	Number of acres per effective man day	21.31
Treating:	Number of trees per effective man day	2.40

Meal Cost

Subsistence purchased	$1223.79
Number of meals	4815
Cost per meal	.2541

This is the highest cost per tree ever recorded on the Kootenai; although the number of trees treated per man day is the same as the 1933 spring project. The increase is due to:

1st, Much higher wages.

2nd, All camps being far from roads, involving long expensive packing by packstock.

3rd, All pickup work, the big trees being few and far between, making the cost of spotting about double.

4th, Heavy floods of winter before filled trails with windfalls, washed out bridges, destroyed camp sites, necessitating considerable expense for moving in camps.

5th, Fewer number of trees to be covered by the same overhead.

Comparative Figures on Individual Projects

Project	Est.No. to treat 1933 Survey	1934 Actual Spotted	1934 Actual Treated	% L.P.	% W.P.	Acres Treated	Total Cost Per Tree Direct	Total Cost Per Tree Gross
Star Creek	652	279	279	6	94	1854	7.883	10.118
Benning "	330	313	313	1	99	2097	5.949	8.067
Meadow Creek	290	328	328	5	95	1393	5.005	6.687
Totals and Averages	1272	920	920			5344	6.199	8.197

Benning Creek Unit: T. 30 N., R. 34 W.

This job was a combination of the former Lower Keeler Creek project and the old Benning Creek project. Lower Keeler Creek was treated for 545 trees in the spring of 1932, and for 403 in 1933. On this 1934 treatment we treated about 115 which is considered final. Then the camp moved to Benning Creek and finished the season. Benning Creek had been treated once before in the spring of 1931 for 503 trees and had been given no further attention since. Only about 200 trees were found.

Al McCraw was in charge of this project. It is believed that a thorough job was done and that no more work will be necessary in this drainage.

Star Creek Project

Five hundred twenty-one trees treated in spring 1930. No action since. The 279 trees found this year were in clumps of large trees widely

scattered although about half were at the edge or in the immediate vicinity of two small burns that occurred in 1932. To treat these trees necessitated a pack of about five miles and the moving of camp once. C. N. Davidson was in charge. This should conclude this project.

Meadow Creek:

There were 624 trees treated in the spring of 1931. No other action. The 328 trees treated this year were on a larger area than the 1931 project and the project was far more intensive. It was a difficult job as there was a vast amount of windfall from the previous winter. In many places large white pine trees were lying two or three deep and were laced with much hemlock and cedar. It is possible that some of the down timber was infested before it fell and was overlooked by the spotters. Also the presence of such a quantity of down and injured timber provided excellent host material during this past summer for any beetles left in the vicinity. It is highly probable that more work will have to be done here by the fall of 1935. Harry Waylett was in charge.

Respectfully submitted

R. W. Williams,
Assistant Forester.

January 15, 1935.

Approved: Jan 23 1935.

P. Webb.
Forest Supervisor.

REPORT ON CONTROL OF MOUNTAIN PINE BEETLE

KOOTENAI NATIONAL FOREST

Fall of 1934

Personnel and Organization.

The fall work consisted of three projects, all being in the nature of follow-up work on areas previously treated.

Organization and inspection was similar in every respect to the spring work previously described.

Period of work September 25, 1934 to November 20, 1934

Acres spotted 4434 Acres treated 4589

Number trees spotted 1865 Number trees treated 2040

Total Expenditure by Appropriations

a.	Insect control appropriation	$ 9,100.00	
b.	Other funds	207.70	
c.	Contributed Commissary	60.40	
d.	Total		$ 9,368.10

Contributed commissary is comprised of commissary purchased and not sold in the spring insect control, therefore used as a credit this fall.

Classified Expenditures

a.	Salaries	$ None	
b.	Horse hire	34.00	
c.	Wages, temporary labor	7,545.50	
d.	Travel and transportation	253.10	
e.	Subsistence supplies	1,411.73	
f.	Other supplied and equipment	123.77	
g.	Total		$ 9,368.10

Activity Costs

		Total	Per Tree
a.	Supervision	$ 1,002.09	$ .491
b.	Travel	49.02	.024
c.	Transportation	362.57	.178
d.	Equipment	217.29	.107
e.	Camps	435.37	.213
f.	Spotting	1,109.95	.544
g.	Treating	5,991.55	2.937
h.	Total	$ 9,167.84	$ 4.494
	Other Insect Control	200.26	
		$ 9,368.10	

i. Subsistence (Prorated to above) $2,465.14 Per man day $1.425

Note. Other Insect Control comprises Pine Creek Control which was worked in conjunction with C.W.F. and not segregated by cost per tree--Total FBM Pine Creek 83,500 W.P.

Subsistence is not given as a separate activity cost, but mess costs, including food supplies and cook house labor, but not transportation, are prorated against labor and salaries on the basis of number of days on each activity. Noneffective time of men paid by the month, such as Sundays, Saturday half-holidays, rainy days, etc., are not carried as a separate item, but the total monthly rate of the employee is charged against the activities in which he is engaged.

a. Supervision. Includes general overhead, warehouse man, camp manager not actually engaged in treating or spotting.

b. Travel. Travel expenses paid to and from the job, and from camp to camp.

c. Transportation. All expense of pack strings, including forage, shoeing, wages of packer, horse hire. All truck hire, including drivers. Freight and express.

d. Equipment. Includes any rental charge made by Central Purchase for equipment and includes any replacement equipment purchased locally.

e. Camps. Labor cost of setting up and breaking camps, bull cook and wood cost. No transportation included.

f. Spotting. Labor cost of spotting, including chief spotter.

g. Treating. Labor cost of treating, including crew foreman. Cost of mop-up and checking of fires.

Output

Spotting.	Number of trees per effective man day	9.63
	Number of acres per effective man day	22.91
Treating.	Number of trees per effective man day	4.19
Meal Cost.	Subsistence Supplies only	$ 1,411.73
	Number of meals 6005 ea	
	Cost per Meal	$ .2331

Comparative Figures on Individual Projects.

Project	Spotted	Treated	% LP & E.S.	% W. P.
Pete Cr.	793	855	13	87
Spread Cr.	790	903	8	92
Bristow Cr.	282	282	8	92
Totals	1865	2040	11	89

Project	Acres treated	Total Cost Per Tree Direct	Gross
Pete Cr.	2895	$ 4.00	$ 5.12
Spread Cr.	878	2.722	3.427
Bristow Cr.	616	5.20	6.009
Totals	4389	3.60	4.494

All of these projects were supplied by truck, no pack stock being hired.

Pete Creek Unit, T. 36 N., R. 33 W. Frank Thomas in charge.

2570 trees treated, fall of 1933.

The 1933 treatment would have proved sufficient if it were not for a heavy blowdown in the area last winter, and the felling of many trees on the right-of-way of a road that was built through the tract

this past summer. The few remaining insects attacked the downfalls and because of lack of pitch, suffered no mortality, produced large broods and matured earlier than usual. Eight-five per cent of the trees treated were downfalls. Most of the standing trees treated were hits occurring in the late fall from new adults emerging from down timber. These new adults were observed in flight as late as October 10. Very few of the treated trees were heavily infested. Many had been worked on by no more than a half dozen pairs of beetles, but these few parent adults had in nearly every case been responsible for two broods each of exceptional size. It can be safely assumed that had the few remaining beetles left from 1933 been forced into standing healthy trees, their percentage of mortality from pitching out would have reduced the infestation to the vanishing point. Conversely the heavy build up of the summer demonstrates the danger inherent to right-of-way clearings and blowdowns in mature white pine.

As the bulk of the infested material was along the road, and was in first quality merchantable sawtimber, the treatment took the form of a logging job. A high lead horse jammer was set up on the road and all sawlog material within 150 to 200 feet was dragged to the road and decked along it. It was the intention to haul these sawlogs to market, but roads became too soft and snow too deep. It will probably be necessary to burn these decks in the early spring. All infested broken chunks, tops and stumps were burned as was all infested material out of reach of the road.

Spread Creek, T. 36 N., R. 33 W. Harry Waylett in charge.

222 trees treated spring 1933.

This work was similar in every respect to Pete Creek. Ninety per cent of treated trees were windfalls or right-of-way timber. Method of treatment the same. There are a few decks of unmerchantable logs along the road that should be burned in the spring.

On both Pete and Spread creeks, the timber close to the roads should be watched this summer for new attacks and treated promptly if they occur. What few beetles remain are concentrated near the roads and will show up there. Otherwise these drainages should need no further attention.

Bristow Creek, T. 32 N., R. 30 W. C. N. Davidson in charge.

646 trees treated spring 1931. No subsequent action.

A subnormal number of beetles existent in this stand since 1931 built up considerably during the summer of 1934 in downfall from the previous winter. Seventy per cent of treated trees were downfalls. These infestations were scattered and lightly hit. About 25 per cent of the material had to be peeled instead of burned, as weather became too wet

for fires or because masses of windfall made too expensive the swamping out and bucking into short lengths for piling and burning.

Under normal conditions, there should be no further action necessary in this drainage.

In conclusion, it is well to draw attention to the need for prompt follow-up in stands that have been subject to heavy downfall, as it is obvious that our severe infestions are often started in windthrown areas or in masses of fresh cut material.

Respectfully submitted,

R. W. Billings

Assistant Forester

Approved January 23, 1935

C. S. WEBB
Forest Supervisor

RWB